
XI. *Some Account of a Collection of Cryptogamic Plants from the Ionian Islands.* By Robert Kaye Greville, LL.D. F.L.S. F.R.S.E.

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UNDER the impression that the smallest contribution towards a more complete knowledge of the botany of the Grecian Isles would not be unacceptable to the Society, I have drawn up the following brief account of a collection of cryptogamic plants recently brought from thence by the Right Honourable the Earl of Guilford. It was placed in my hands by Mr. David Don, Librarian to the Society.

The number of species contained in the collection is but small: and it is necessary to observe, that many of the specimens are in too imperfect a state to admit of minute examination; these I have omitted, preferring to give a shorter list than run the hazard of adding to the number of the errors with which cryptogamic botany is already so much incumbered. There are still, however, several plants of great interest, and some new species.

BYSSOIDEÆ

(Filamentous plants, referred by most authors to the Linnæan Order *Fungi*).

Genus 1. TRICHOHECIUM.

1. *T. roseum.* Link in *Mag. der Gesell. Naturfor. Freunde zu Berlin*, iii. p. 18. *Nees. Syst. t. 3. f. 41.*

Genus 2. SPOROTRICHUM. (*Collarium.*)

1. *S. badium*, thallo cæspitoso, badio; filis tenuissimis, confervoideis, implexis; sporidiis concoloribus, ovalibus; acervulis distinctis, coacervatis.

On moist wood in a state of decay.

The aspect of this little plant is very much that of *Conferva arachnoidea*. The threads are jointed, and two or three lines in length. It belongs to the genus *Collarium* of Link in *Magaz. der Gesell. Naturfor. Freunde zu Berlin*; but that genus has been subsequently reunited by him to *Sporotrichum*, under which it is also found in Persoon's *Mycologia*. Vide Link in *Jahrbuch der Gewächskunde*, i. p. 163.

GASTROMYCI

(Part of the Linnæan Order *Fungi*).

Genus 3. CYATHUS.

1. *C. Crucibulum*. *Pers. Syn. Fung.* p. 238. *Grev. Cr. Fl. t.* 34.

Genus 4. SCLEROTIUM.

1. *S. gyrosum*, parvum, nigrum, erumpens, plano-convexum, sulcis gyrosis rugosum, intus albidum. TAB. III. f. 1.

On dead leaves of some monocotyledonous plant.

Entire plant not more than one or two lines in breadth, more or less circular, sometimes ring-like, from the centre being unoccupied. The surface is very similar to the shields of some species of *Gyrophora*.

FUNGI.

Genus 5. PEZIZA.

1. *P. coccinea*. *Jacq. Aust. t. 163. Grev. Cr. Fl. t. 171.*

ALGÆ.

(Diatomeæ.)

Genus 6. DIATOMA.

1. *D. fasciculatum*. *Ag. Syst. Alg. p. 3.*

Genus 7. GLOIONEMA.

1. *G. paradoxum*. *Ag. Syst. Alg. p. 11. Echinella paradoxa. Lyngb. Tent. Hydrophyt. Dan. p. 211. t. 70. Grev. Cr. Fl. t. 25.*

(Confervoideæ.)

Genus 8. BANGIA.

1. *B. atro-purpurea*. *Ag. Syst. Alg. p. 76. Conferva atro-purpurea. Dillw. Conf. t. 103.*

Genus 9. CONFERVA.

1. *C. catenata*. *Roth. Cat. ii. p. 210. Ag. Syst. Alg. p. 119.*
2. *C. prolifera*. *Roth. Cat. i. p. 182. t. 3. f. 2; et ii. p. 213. Ag. Syst. Alg. p. 119.*
3. *C. trichotoma*. *Ag. Syst. Alg. p. 121.*

Genus 10. CERAMIUM.

1. *C. diaphanum*. *Roth. Cat. iii. p. 154. Ag. Syst. Alg. p. 133.*

Genus 11. POLYSIPHONIA. *Grev.* (*Hutchinsia. Ag.*)

1. *P. fruticulosa*. *Grev. Hutchinsia fruticulosa. Ag. Syst. Alg. p. 158. Fucus fruticulosus. Turn. Hist. Fuc. t. 227.*

2. *P. filamentosa*. *Grev.* *Hutchinsia filamentosa*. *Ag. Syst. Alg.* p. 159.

Genus 12. ECTOCARPUS.

1. *E. siliculosus*. *Lyngb. Tent. Hydrophyt. Dan.* p. 131. t. 43.
Ag. Syst. Alg. p. 161.

Genus 13. SPHACELLARIA.

1. *S. scoparia*. *Lyngb. Tent. Hydrophyt. Dan.* p. 104. t. 31.
Ag. Syst. Alg. p. 167.

(*Ulvaceæ.*)

Genus 14. BRYOPSIS.

1. *B. plumosa*. *Ag. Syst. Alg.* p. 178. *Ulva plumosa*. *Huds. Angl.* p. 571.

Genus 15. SOLENIA.

1. *S. compressa*. *Ag. Syst. Alg.* p. 186. *Ulva compressa*. *Linna. Sp. Pl.* p. 1632. *Engl. Bot.* t. 1739.

(*Florideæ.*)

Genus 16. CHONDRIA.

1. *C. obtusa*. *Ag. Syst. Alg.* p. 202. *Fucus obtusus*. *Turn. Hist. Fuc.* t. 21.

Genus 17. SPHÆROCOCCUS.

1. *S. Teedii*. *Ag. Syst. Alg.* p. 225. *Fucus Teedii*. *Turn. Hist. Fuc.* t. 205.
2. *S. corneus*. *Ag. Syst. Alg.* p. 225. *Fucus corneus*. *Turn. Hist. Fuc.* t. 257.

3. *S. con-*

3. *S. confervoides*. *Ag. Syst. Alg.* p. 232. *Fucus confervoides*.
Turn. Hist. Fuc. t. 84.
4. *S. acicularis*. *Ag. Syst. Alg.* p. 237. *Fucus acicularis*. *Turn.*
Hist. Fuc. t. 126.

Genus 18. DELESSERIA.

1. *D. tenerrima*, fronde tenuissimâ, aveniâ, lineari, dichotomâ, roseâ, apice obtusâ ; soris sporidiorum sparsis. TAB. III. f. 2.

In the sea, attached to shells, corallines, and marine plants.

Root, a very minute callous disk, giving rise immediately to several very delicate *fronds*, which are from 2 to 4 inches in length, and regularly divided many times in a dichotomous manner, the segments divaricated, linear, 1—3 lines in breadth, obtuse at the apex, the margin entire. The *reticulation* is very irregular, similar to that of *D. punctata*. *Colour* a most delicate and beautiful pink, acquiring a brownish tinge towards the base ; but in decay becoming almost colourless. I have not observed any capsular fructification, but the *sori* (as Agardh calls the clusters of seemingly naked granules) are scattered without any particular order over the frond.

It is now two years since I received excellent specimens of this highly beautiful plant, collected in Devonshire by my esteemed friend Mrs. Griffiths : as few persons are so well acquainted with the actual vegetation of marine *Algæ*, her opinion in favour of its being an undescribed species must be allowed to have great weight. Besides however studying the preserved specimens, I had an opportunity of examining some in their native place of growth at Torquay a few weeks ago, and thus am enabled to add my opinion to hers in support of their distinctness.

At

At first sight it has a near resemblance to some states of *Sphaerococcus bifidus*, but the discovery of the fructification proved it to belong to a different genus. In texture and delicacy as well as fructification it is nearly allied to *Delesseria punctata*, but the constant dichotomous, linear, smaller frond, and very divaricated segments, keep it sufficiently apart.

The specimens in the present collection are smaller and not fertile; yet I think there cannot be a doubt of their being the same species.

(*Fucoideæ.*)

Genus 19. SCYTOSIPHON.

1. *S. fœniculaceus.* *Lyngb. Tent. Hydrophyt. Dan. p. 63. t. 14.*
Ag. Syst. Alg. p. 258. *Fucus subtilis.* *Turn. Hist. Fuc.*
t. 234.

Genus 20. HALISERIS.

1. *H. polypodioides.* *Ag. Syst. Alg. p. 262.* *Fucus membranaceus.* *Stackh. Ner. Brit. p. 13. t. 6.* *Turn. Hist. Fuc.*
t. 87.

Genus 21. ZONARIA.

1. *Z. rubra*, fronde reniformi, planâ, subintegerrimâ, fragili, nitidâ, rubrâ, lineis minutissimis longitudinaliter densissimè notatâ. TAB. III. f. 3.

In the sea, about the roots of *Zostera marina*.

Frond dull pinkish red, half an inch to one inch in breadth, roundish reniform, nearly plain, the margin entire or very slightly lobed; surface glabrous, somewhat glistening, densely reticulated, the reticulations minute, arranged in close parallel convex longitudinal lines, scarcely perceptible to the naked eye. There are also a few transverse corrugations.

corrugations. Beneath, the frond is hoary with a pale tomentose covering.

Genus 22. CYSTOSEIRA.

1. *C. Abies marina*. *Ag. Syst. Alg.* p. 282. *Fucus Abies marina*.
Turn. Hist. Fuc. t. 249.
2. *C. granulata*. *Ag. Syst. Alg.* p. 282. *Fucus granulatus*.
Turn. Hist. Fuc. t. 251.

Genus 23. SARGASSUM.

1. *S. pallidum*. *Ag. Syst. Alg.* p. 307. *Fucus pallidus*. *Turn. Hist. Fuc.* t. 67.

HEPATICÆ.

Genus 24. RICCIA.

1. *R. crystallina*. *Linn. Sp. Pl.* p. 1605.

Genus 25. ANTHOCEROS.

1. *A. lævis*. *Linn. Sp. Pl.* p. 1605.

Genus 26. JUNGERMANNIA.

1. *J. epiphylla*. *Linn. Sp. Pl.* p. 1602. *Hook. Jung.* t. 47.
2. *J. inflata*. *Huds. Angl.* p. 511. *Hook. Jung.* t. 38.
3. *J. pusilla*. *Linn. Sp. Pl.* p. 1602. *Hook. Jung.* t. 69.
4. *J. complanata* β . *minor*. *Hook. Jung.* t. 81. f. 17.

Dr. Hooker in his account of this species has noticed that the smaller lobes of the leaves throw out radicular fibres at the folded edge of the leaves, and he quotes the observation of Wahlenberg: "in ejus paginâ inferiore versus oram inferiorem papilla protuberat, primùm viridis, dein fuscenscens et radicans." In the specimens before me I find this description to be very correct.

correct. This *papilla* is worthy of particular notice, as being always present, and near the fold of the leaf, but still quite on the plane surface. Though it sometimes throws out radicles, it more frequently produces a foliaceous expansion from its apex, of various forms, often circular like a little cup. I have observed the same kind of *papilla* in an exotic species. Of *J. complanata*, as far as regards this part, I have seen no correct figure.

5. *J. dilatata*. *Linn. Sp. Pl.* p. 1600. *Hook. Jung. t.* 5.

MUSCI.

* *Seta terminalis*.

Genus 27. TORTULA.

1. *T. rigida*. *Turn. Musc. Hiber.* p. 43. *Hook. et Grev. in Edin. Journ. of Science*, i. p. 289.
2. *T. muralis*. *Hedw. Sp. Musc.* p. 123. *Hook. et Grev. in Edin. Journ. of Science*, i. p. 292.
3. *T. Northiana*, caule brevi, simplici; foliis erecto-patentibus, lineari-lanceolatis acutis, siccitate tortuosis; thecâ subcylindricâ. TAB. III. f. 4.
(No particular station given. It probably grows on banks.)

Stem from 3 lines to half an inch in length, simple. *Leaves* pale bright green, whitish at their base, linear-lanceolate, erecto-patent, straight, acute, the margin slightly waved, entire; nerve strong, running to the point. In a dry state they are tortuose. *Fruitstalk* an inch in length, pale, slender. *Capsule* nearly cylindrical, slightly curved, with a subulate lid.

I have

I have to regret, in describing this species, that the fructification is too young to exhibit anything besides its general form. This prevents me from ascertaining the nature of the peristome, which probably resembles that of *T. subulata*, to which moss our species is most nearly allied. In the leaves, however, there is much greater length and narrowness, with almost the entire absence of an apiculus.

I have bestowed the specific name in honour of the illustrious individual by whom the collection was brought home.

4. *T. fallax*. Swartz. *Musc. Suec.* p. 40. Hook. et Grev. in *Edin. Journ. of Science*, i. p. 299.

Genus 28. WEISSIA.

1. *W. pusilla*. Hedw. *Sp. Musc.* p. 64. Hook. et Tayl. *Musc. Brit. t.* 15.

Genus 29. DICRANUM.

1. *D. bryoides*. Roth. *Germ.* iii. p. 181. Hook. et Tayl. *Musc. Brit. t.* 16.
 2. *D. varium*. Hedw. *Sp. Musc.* p. 133. Hook. et Tayl. *Musc. Brit. t.* 17.

Genus 30. DIDYMODON.

1. *D. trifarium*. Swartz. *Musc. Suec.* p. 28. Hook. et Tayl. *Musc. Brit. t.* 20.

Genus 31. FUNARIA.

1. *F. hygrometrica*. Hedw. *Sp. Musc.* p. 172. Hook. et Tayl. *Musc. Brit. t.* 20.
 2. *F. hibernica*. Hook. et Tayl. *Musc. Brit. t.* 20.

I have not access to Wahlenberg's plate and description in *Act. Holm.* 1806, of *F. calcarea*, which, according to Swartz, is the same as Hooker's *F. hibernica*. Thus, in order to avoid uncertainty, I have been obliged to keep up the more recent name.

Genus 32. BRYUM.

1. *B. carneum*. *Linn. Sp. Pl.* p. 1587. *Hook. et Tayl. Musc. Brit. t. 29.*
2. *B. argenteum*. *Linn. Sp. Pl.* p. 1586. *Hook. et Tayl. Musc. Brit. t. 29.*
3. *B. capillare*. *Linn. Sp. Pl.* p. 1586. *Hook. et Tayl. Musc. Brit. t. 29.*
4. *B. caespiticium*. *Linn. Sp. Pl.* p. 1586. *Hook. et Tayl. Musc. Brit. t. 29.*
5. *B. nutans*. *Schreb. Lips. p. 81.* *Hook. et Tayl. Musc. Brit. t. 29.* *Webera nutans. Hedw. Sp. Musc. p. 168.*

6. *B. elegans*, caule breviusculo, innovationibus elongato-ramoso; foliis ovatis, laxè reticulatis, acutis integerrimis, concavis, margine apicem versus incurvato, nervo percurrente; thecâ obovatâ, inclinâtâ; operculo convexo. TAB. III. f. 5.

On the ground in moist places.

Stem less than half an inch in height, but elongated by innovations to above an inch; the *innovations* slender and delicate. *Leaves* erecto-patent, pellucid, ovate, acute, concave, entire, with the margin so much incurved towards the point as to be almost involute, reticulated with lax, large, elongated cellules, and furnished with a slender percurrent nerve: those of the innovations are rather distantly placed, of a pale bright reddish brown below, the upper ones of a pale pleasant green. *Fruitstalk* about an inch in length, red. *Capsule* rather large, obovate, inclined, reddish brown, when very old, somewhat pyriform.

Some of the outer teeth of the peristome were perfect; but the inner ones were too much damaged for examination.

In

In every point of view this moss seems sufficiently distinct. The leaves are very strikingly vascular, and in this respect resemble those of an unpublished Nepalese species in my possession.

7. *B. Donianum*, caule breviusculo robusto, innovationibus brevibus ramoso; foliis densis summitate præcipuè aggregatis, erecto-patentibus, obovatis, acutis, marginatis, apice denticulatis, nervo excurrente; setâ elongatâ; thecâ clavatâ pendulâ; operculo brevi, conico. TAB. III. f. 6.

On the ground? (No station given.)

Stem about half an inch in height, robust, covered with brown tomentose radicular fibres, branched with very short innovations. *Leaves* few on the lower part of the stem, densely crowded and somewhat spreading at the top: they are rather broadly obovate (those of the innovations narrower), pointed, slightly concave, denticulate towards the apex, the margin decidedly thickened: nerve strong, and running more or less beyond the point, but never hair-like or transparent. The *colour* of the lower leaves is reddish; that of the upper ones a dull green, which is much brighter under the microscope, their base being moreover frequently of a beautiful deep pink. The nerve and thickened margin are also often reddish. The reticulation is small, the cellules roundish, except at the base, where they are elongated. *Fruitstalk* nearly two inches long, dark red. *Capsule* pendulous, brownish-red, large, clavate, the *lid* shortly and obtusely conical; this part, however, I have not seen in a mature state. *Inner peristome* equal in length to the *outer one*, each tooth composed of from 3 to 5 ribs terminating in a point, and connected by transverse bars. I could not perceive any alternating *cilia*.

This fine *Bryum*, which I have named after a naturalist daily rising in public estimation (Mr. David Don, Librarian to the Society), has at first sight the aspect of short specimens of *B. ventricosum*, especially in the character of its fruit; but the much broader leaves, the very thickened margin, excurrent nerve, and quite different kind of innovationary branches, are abundant marks of distinction. I am not aware of any other species with which it is likely to be confounded.

8. *B. ligulatum*. *Schreb. Lips. p. 84. Hook. et Tayl. Musc. Brit. t. 30.*

Genus 33. BARTRAMIA.

1. *B. pomiformis*. *Hedw. Sp. Musc. p. 164. Hook. et Tayl. Musc. Brit. t. 23.*

(*Seta lateralis.*)

Genus 34. LEUCODON.

1. *L. Morensis*. *Schwægr. Suppl. i. 2. p. 2. et Suppl. ii. t. 25.*

Genus 35. PTEROGONIUM.

1. *P. gracile*. *Swartz. Musc. Succ. p. 26. Hook. et Tayl. Musc. Brit. t. 14.*
 2. *P. Smithii*. *Swartz. in Schrad. Journ. ii. p. 173. Hook. et Tayl. Musc. Brit. t. 14.*

Genus 36. FONTINALIS.

1. *F. squamosa*. *Linn. Sp. Pl. p. 1571. Hook. et Tayl. Musc. Brit. t. 11.*

Genus 37. HYPNUM.

1. *H. riparium*. *Linn. Sp. Pl. p. 1595. Hook. et Tayl. Musc. Brit. t. 24.*
 2. *H. confertum*. *Dicks. Crypt. fasc. iv. p. 17. t. 11. f. 14. Hook. et Tayl. Musc. Brit. t. 26.*

3. *H. te-*

3. *H. tenellum*. *Dicks. Crypt. fasc. iv. p. 16. t. 11. f. 12. Hook. et Tayl. Musc. Brit. t. 24. H. Agirianum, Brid.*
4. *H. illecebrum*. *Hedw. Sp. Musc. p. 252. t. 66. f. 1, 2? Sm. Fl. Brit. iii. p. 1314. Engl. Bot. t. 2189.*
5. *H. rutabulum*. *Linn. Sp. Pl. p. 1590. Hook. et Tayl. Musc. Brit. t. 26.*
6. *H. prælongum*. *Linn. Sp. Pl. p. 1591. Hook. et Tayl. Musc. Brit. t. 25.*
7. *H. cupressiforme*. *Linn. Sp. Pl. p. 1592. Hook. et Tayl. Musc. Brit. t. 27.*
8. *H. Leskea*, caule infernè denudato, ramis fasciculatis; foliis ovatis acuminatis apice serratis, margine basi reflexo, nervo ante apicem evanescenti; thecâ ovato-cylindricâ, suberectâ; operculo conico, rostrato. TAB. III. f. 7.

(No station given.)

Stem erect, naked for about half an inch, then dividing into a number of slender fascicled sub-erect branches. *Leaves* closely imbricated when dry, but spreading when moist, numerous, ovate, acuminate, serrated towards the point, concave at the base, where the margin is also reflexed; nerve vanishing below the point. *Perichætial leaves* erect, imbricated, more acuminate, scarcely serrated at the point, the nerve disappearing lower down. *Colour* deep green. *Fruitstalk* nearly an inch in length. *Capsule* sub-erect, ovato-cylindrical. *Lid* conical, with a short acute beak. *Teeth* of the inner peristome with linear lacunæ or perforations down the middle, with very short alternating cilia.

LYCOPODINEÆ.

Genus 38. LYCOPODIUM.

1. *L. denticulatum*. *Linn. Sp. Pl. p. 1569.*

EXPLA-

EXPLANATION OF TAB. III.

- Sclerotium gyrosuum*. Fig. 1. Plant, nat. size. *a*. Plants magnified, one of them divided vertically.
- Delesseria tenerrima*. Fig. 2. Plant, nat. size. *a*. Portion of the frond. *b*. Portion of the frond with fructification;—magnified.
- Zonaria rubra*. Fig. 3. Plant, nat. size. *a*. Portion of the frond magnified.
- Tortula Northiana*. Fig. 4. Plants, nat. size. *a*. A leaf. *b*. Capsule;—magnified.
- Bryum elegans*. Fig. 5. Plant, nat. size. *a*. Portion of one of the innovations. *b*. A leaf. *c*. Capsule. *d*. Two of the teeth of the outer peristome;—magnified.
- Bryum Donianum*. Fig. 6. Plant, nat. size. *a*. Leaf. *b*. Portion of the summit of a leaf. *c*. Capsule. *d*. Teeth of the outer peristome. *e*. Teeth of the inner ditto;—magnified.
- Hypnum Leskea*. Fig. 7. Plant, nat. size. *a*. Leaf. *b*. Perichaetial leaf. *c*. Capsule. *d*. Teeth of the outer peristome. *e*. Teeth of the inner ditto;—magnified.